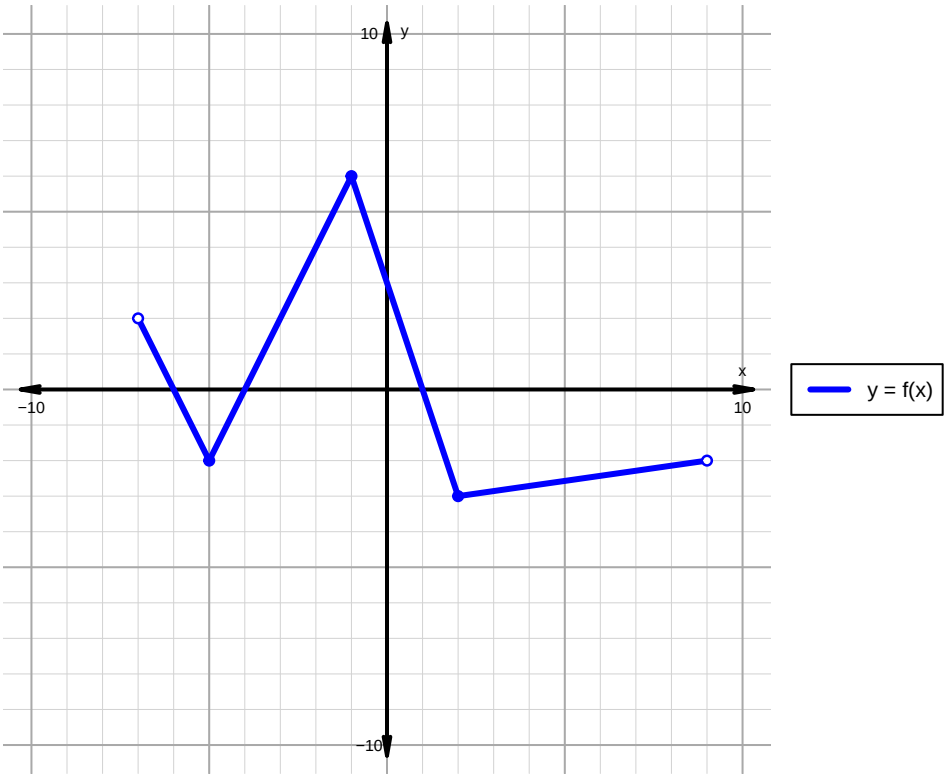
Name: Date:

Intervals, Transformations, and Slope Solution (version 70)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-6) \cup (-4,1)$
Negative	$(-6,-4) \cup (1,9)$
Increasing	$(-5,-1) \cup (2,9)$
Decreasing	$(-7,-5) \cup (-1,2)$
Domain	$(-7,9)$
Range	$(-3,6)$

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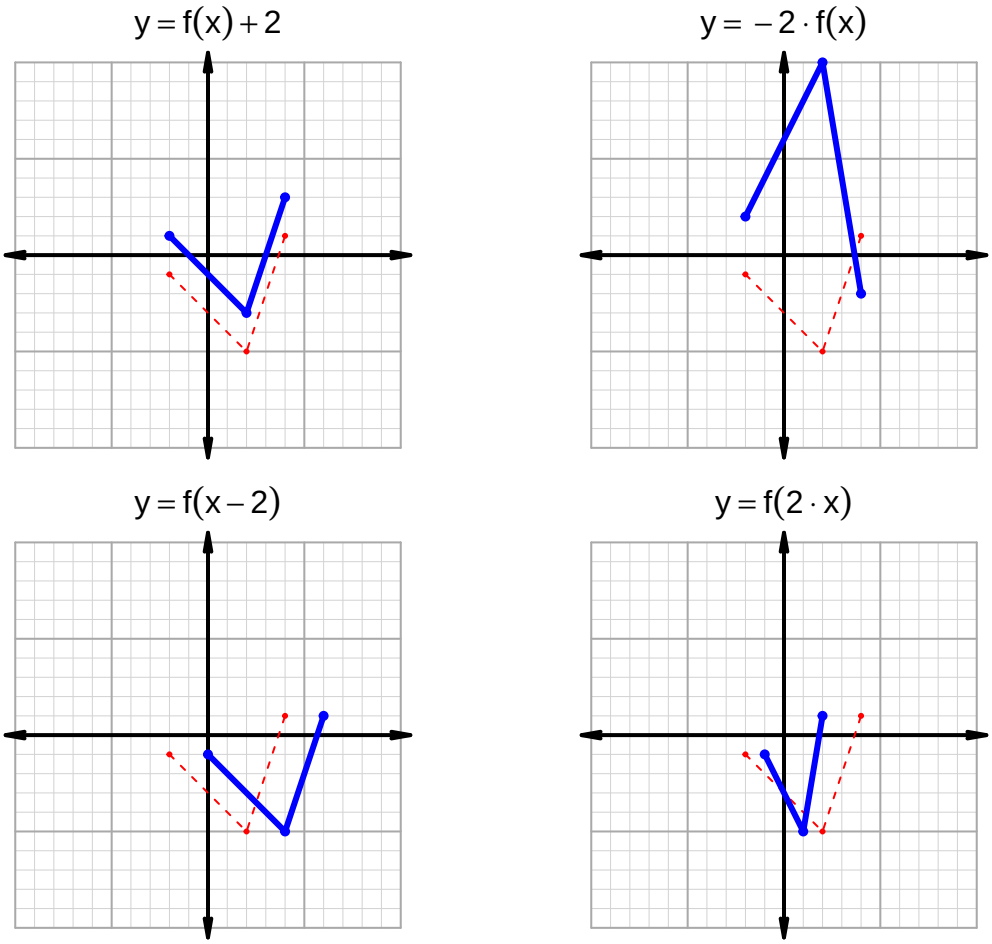
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 45$ and $x_2 = 87$. Express your answer as a reduced fraction.

x	$g(x)$
39	87
45	39
57	45
87	57

$\frac{g(87)-g(45)}{87-45} = \frac{57-39}{87-45} = \frac{18}{42}$

The greatest common factor of 18 and 42 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{7}$$